TrafficWise

TrafficWise, Indiana's Intelligent Transportation System, made great strides in 2003. TrafficWise is designed to make driving easier and safer, particularly in the state's major metropolitan areas.

TrafficWise uses technology to detect highway congestion as it occurs and determine the reasons for it. The system then speeds information to the people who need it–drivers, dispatchers and emergency responders.

Indiana's TrafficWise system has three major functions: monitoring traffic and weather, updating traveler information and responding to incidents.

In 2003, INDOT formed a statewide ITS operations working team with the seven districts to better coordinate efforts related to traffic and incident management statewide. INDOT also worked to advance the traffic management systems in its three primary locations: Gary/Northwest Indiana, Indianapolis and Clark County/Louisville.

Gary/Northwest Indiana

Deployment of the TrafficWise system in northwest Indiana was virtually completed in 2003. The Borman Traffic Management Center went operational 24 hours a day, seven days a week in December 2003. Also, in January 2004, cameras placed along I-80/90 and I-65 "went live", sending real-time traffic information to the TrafficWise Web site so that motorists can make educated decisions before leaving their homes.

Indianapolis

The Indianapolis Traffic Management Center/Indiana State Police Post 52 building was opened and became fully operational in April 2004. The new 57,000 square-foot building houses offices and is the storage and service center for Hoosier Helper vehicles.

Clark County/Louisville

Indiana is a partner with the Kentucky Transportation Cabinet in Traffic Response and Incident Management Assisting the River Cities (TRIMARC). The Indiana portion of the system will ultimately include I-65, I-64 and I-265. The TRIMARC system currently includes 54 cameras, 13 Dynamic Message Signs and 60 traffic sensors in Kentucky covering 25 miles of interstate. Two Hoosier Helper vans operate in Southern Indiana.

materials and tests

The Materials and Tests Division provides managerial and technical leadership to ensure statewide uniformity in the inspection and testing of highway materials. The division provides engineering advice on matters relating to the suitability, quality and strength of materials and also provides geotechnical and pavement design services.

The division is responsible for quality control/quality assurance training programs for industry personnel, the evaluation of new products and failed material investigations.

Laboratory activities include testing steel, chemistry, cement, hot mix asphalt, asphalt binder, aggregate quality, concrete, soils and special studies. Programs supported by the Materials and Tests Division include:

- The Certified Aggregate Producer Program, in partnership with Purdue University and the Indiana Mineral Aggregate Association.
- The Certified Hot Mix Asphalt Technician Training Program, in partnership with the Asphalt Pavement Association and Rose Hulman University.
- The Certified Concrete Technician Training Program, in partnership with Purdue University.
- The Qualified Technician Training Program and the Independent Assurance Program.

research

The mission of INDOT's Research Program is to conduct, oversee and partner in cost-effective transportation research that benefits our customers, perform specialized testing on behalf of the department and assist in technology development, identification and transfer. The research program is a federal match program, with 80 percent of the money federal .with 20 percent state match.

The Federal Highway Administration (FHWA) and a federally mandated Peer Review of the INDOT Research Program (2002) has called the program,

"a quality research program with an emphasis and commitment to implementation…with many state DOTs following the INDOT-academia-industry model for effective research and implementation."

The INDOT Research Program is directed by the INDOT Research Division in West Lafayette, Indiana and works closely with the Joint Transportation Research Program (JTRP) at Purdue University. JTRP is a cooperative research effort between government (federal, state and local), academia (from Indiana universities and colleges) and industry. An independent review of the research program, conducted in 2003, confirmed an average benefit-cost ratio of 59:1.

Currently, the program includes 130 active research projects and 75 implementation projects impacting all major areas of transportation including construction/geotechnical, environmental, multimodal/planning/financing, traffic/intelligent transportation systems, pavement/materials, structures/hydraulics, transportation security/safety and policy.

The INDOT Research Program, in conjunction with its partners, is active on the national, state and local levels identifying and addressing Indiana's transportation needs, as well as working together to attract external, competitive research funding, available at the national level, for use in addressing Indiana's needs. Broad statewide focus groups are utilized to identify Indiana's most pressing transportation research needs and a Long Range Research Plan (LRRP) is developed every three years prioritizing these needs, although the plan is updated every year.

Specialized Testing Programs, such as the statewide Skid Accident Reduction Program, help identify potentially slippery locations when weather is wet. This program has resulted in safer roads and developed and evaluated skid resistant pavement and materials. It has become part of INDOT's warranty contracts, as a measure of safety performance for the road user. In 2003, 100 percent of the average friction values were above 'flagging values' indicating INDOT has been successful in building and maintaining skid resistant pavements.

Other testing programs such as the Deflection Testing Program, are used to evaluate pavement condition and strength. This information is used to design overlays for specific site conditions, restore pavement support and evaluate the impact of heavy loading of pavement and shoulders. Savings from this program results in an annual material savings of $6 – $8 million and is assisting INDOT in implementing the new AASHTO Pavement Design Guide for longer lasting and better performing pavements.

The INDOT Research Program addresses various needs. Some of those needs are addressing the fatigue of older bridges in northern Indiana due to overweight and oversized loads. The procedure systematically evaluates the structural adequacy of the highway bridge structures along the extra heavy weight corridor in the Northwest Indiana.

The program also researches primary routes for earthquake preparedness, traffic in school zones and research projects addressing the potential reuse of recycled and waste materials which are generated by Indiana industry into beneficial reuse applications in highway construction. Not only have these recycled and waste materials been diverted from Indiana landfills into environmentally friendly reuse applications, but have in many instances resulted in reduced material costs on INDOT projects.

The research program is continually striving to develop and identify new technology and conduct future cost-effective research that will provide a safe, efficient and effective transportation system to its ultimate customer – the citizens of Indiana.